IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):   Patience, C.

Serial No: Unassigned   Art Unit: Unassigned

Filed: Herewith   Examiner: Unassigned

Title: SWINE DEFECTIVE FOR TRANSMISSION OF PORCINE

ENDOGENOUS RETROVIRUS AND USES THEREOF

Docket No: 61750-311

BOX PATENT APPLICATION
Assistant Commissioner for Patents
Washington, D.C. 20231

Statement Under 37 CFR 1.821(f)

Sir:

Applicant hereby asserts that the paper Sequence Listing filed herewith and the CRF form (diskette) of the Sequence Listing filed herewith are the same.

Respectfully submitted,

Alan J. Grant
Reg. No. 33,389
CARELLA, BYRNE, BAIN, GILFILLAN,
CECCHI, STEWART & OLSTEIN
6 Becker Farm Road
Roseland, NJ 07068
Tel. No.: (973) 994-1700

SEQUENCE LISTING

<110> Patience, Clive

<120> Swine Defective for Transmission of Porcine Endogenous
      Retrovirus and Uses Thereof

<130> 61750-311

<140>
<141>

<150> U.S. 60/243695
<151> 2000-10-27

<150> U.S. 60/182965
<151> 2000-02-16

<150> U.S. 60/177003
<151> 2000-01-19

<160> 33

<170> PatentIn Ver. 2.1

<210> 1
<211> 600
<212> DNA
<213> Sus sp.

<400> 1
atgcatccca cgttaagccg gcgccacctc ccgattcggg gtggaaagcc gaaaagactg 60
aaaatcccct taagcttcgc ctccatcgcg tggttcctta ctctgtcaat aactcctcaa 120
gttaatggta aacgccttgt ggacagcccg aactcccata aacccttatc tctcacctgg 180
ttacttactg actccggtac aggtattaat attaacagca ctcaagggga ggctcccttg 240
gggacctggt ggcctgaatt atatgtctgc cttcgatcag taatccctgg tctcaatgac 300
caggccacac cccccgatgt actccgtgct tacgggtttt acgtttgctc aggaccccca 360
aataatgaag aatattgcgg aaatcctcag gatttctttt gcaagcaatg gagctgcgta 420
acttctaatg atgggaattg gaaatggcca gtctctcagc aagacagagt aagttactct 480
tttgttaaca atcctaccag ttataatcaa tttaattatg gccatgggag atggaaagat 540
tggcaacagc gggtacaaaa agatgtacga ataagcaaa taagctgtca ttcgttagac 600

<210> 2
<211> 600
<212> DNA
<213> Sus sp.

<400> 2

```
atgcatccca cgttaagccg gcgccacctc ccgattcggg gtggaaagcc gaaaagactg 60
aaaatcccct taagcttcgc ctccatcgcg tggttcctta ctctgtcaat aactcctcaa 120
gttaatggta aacgccttgt ggacagcccg aactcccata aacccttatc tctcacctgg 180
ttacttactg actccggtac aggtattaat attaacagca ctcaagggga ggctcccttg 240
gggacctggt ggcctgaatt atatgtctgc cttcgatcag taatccctgg tctcaatgac 300
caggccacac cccccgatgt actccgtgct tacgggtttt acgtttgccc aggacccccа 360
aataatgaag aatattgtgg aaatcctcag gatttctttt gcaagcaatg gagctgcgta 420
acttctaatg atgggaattg gaaatggcca gtctctcagc aagacagagt aagttactct 480
tttgttaaca atcctaccag ttataatcaa tttaattatg gccatgggag atggaaagat 540
tggcaacagc gggtacaaaa agatgtacga aataagcaaa taagctgtca ttcgttagac 600
```


<210> 3
<211> 540
<212> DNA
<213> Sus sp.

<400> 3

```
atgcatccca cgttaagccg gcgccacctc ccgattcggg gtggaaagcc gaaaagactg 60
aaaatcccct taagcttcgc ctccatcgcg tggttcctta ctctgtcaat aactcctcaa 120
gttaatggta aacgccttgt ggacagcccg aactcccata aacccttatc tctcacctgg 180
ttacttactg actccggtac aggtattaat attaacagca ctcaagggga ggctcccttg 240
gggacctggt ggcctgaatt atatgtctgc cttcgatcag taatccctgg tctcaatgac 300
caggccacac cccccgatgt actccgtgct tacgggtttt acgtttgccc aggacccccа 360
aataatgaag aatattgtgg aaatcctcag gatttctttt gcaagcaatg gagctgcgta 420
acttctaatg atgggaattg gaaatggcca gtctctcagc aagacagagt aagttactct 480
tttgttaaca atcctaccag ttataatcaa tttaattatg gccatgggag atggaaagat 540
```


<210> 4
<211> 600
<212> DNA
<213> Sus sp.

<400> 4

```
atgcatccca cgttaagccg gcgccacctc ccgattcggg gtggaaagcc gaaaagactg 60
aaaatcccct taagcttcgc ctccatcgcg tggttcctta ctctgtcaat aactcctcaa 120
gttaatggta aacgccttgt gaacagtccg aactcccata aacccttatc tctcacctgg 180
ttacttactg actccggtac aggtattaat attaacagca ctcaagggga ggctcccttg 240
gggacctggt ggcctgaatt atatgtctgc cttcgatcag taatccctgg tctcaatgac 300
caggccacac cccccgatgt actccgtgct tacgggtttt acgtttgccc aggacccccа 360
aataatgaag aatattgtgg aaatcctcag gatttctttt gcaagcaatg gagctgcgta 420
acttctaatg atgggaattg gaaatggcca gtctctcagc aagacagagt aagttactct 480
tttgttaaca atcctaccag ttataatcaa tttaattatg gccatgggag atggaaagat 540
tggcaacagc gggtacaaaa agatgtacga aataagcaaa taagctgtca ttcgttagac 600
```

<210> 5
<211> 599
<212> DNA
<213> Sus sp.

<400> 5
atgcatccca cgttaagccg gcgccacctc ccgattcggg gtggaaagcc gaaaagactg 60
aaaatcccct taagcttcgc ctccatcgcg tggttcctta ctctgtcaat aactcctcaa 120
gttaatggta aacgccttgt gaacagtccg aactcccata aacccttatc tctcacctgg 180
ttacttactg actccggtac aggtattaat attaacagca ctcaagggga ggctcccttg 240
gggacctggt ggcctgaatt atatgtctgc cttcgatcag taatccctgg tctcaatgac 300
caggccacac cccccgatgt actccgtgct tacgggtttt acgtttgccc aggacccca 360
aataatgaag aatattgtgg aaatcctcag gatttctttt gcaagcaatg gagctgcgta 420
acttctaatg atgggaattg gaaatggcca gtctctcagc aagacagagt aagttactct 480
tttgttaaca atcctaccag ttataatcaa tttaattatg ccatgggag atggaaagat 540
tggcaacagc gggtacaaaa agatgtacga ataagcaaa taagctgtca ttcgttaga 599

<210> 6
<211> 599
<212> DNA
<213> Sus sp.

<400> 6
atgcatccca cgttaagccg gcgccacctc ccgattcggg gtggaaagcc gaaaagactg 60
aaaatcccct taagcttcgc ctccatcgcg tggttcctta ctctgtcaat aactcctcaa 120
gttaatggta aacgccttgt gaacagtccg aactcccata aacccttatc tctcacctgg 180
ttacttactg actccggtac aggtattaat attaacagca ctcaagggga ggctcccttg 240
gggacctggt ggcctgaatt atatgtctgc cttcgatcag taatccctgg tctcaatgac 300
caggccacac cccccgatgt actccgtgct tacgggtttt acgtttgccc aggacccca 360
aataatgaag aatattgtgg aaatcctcag gatttctttt gcaagcaatg gagctgcgta 420
acttctaatg atgggaattg gaaatggcca gtctctcagc aagacagagt aagttactct 480
tttgttaaca atcctaccag ttataatcaa tttaattatg ccatgggag atggaaagat 540
tggcaacagc gggtacaaaa agatgtacga ataagcaaa taagctgtca ttcgttaga 599

<210> 7
<211> 600
<212> DNA
<213> Sus sp.

<400> 7
atgcatccca cgttaagccg gcgccacctc ccgattcggg gtggaaagcc gaaaagactg 60
aaaatcccct taagcttcgc ctccatcgcg tggttcctta ctctgtcaat aactcctcaa 120
gttaatggta aacgccttgt gaacagtccg aactcccata aacccttatc tctcacctgg 180
ttacttactg actccggtac aggtattaat attaacagca ctcaagggga ggctcccttg 240
gggacctggt ggcctgaatt atatgtctgc cttcgatcag taatccctgg tctcaatgac 300
caggccacac cccccgatgt actccgtgct tacgggtttt acgtttgccc aggacccca 360

3

aataatgaag aatattgtgg aaatcctcag gatttctttt gcaagcaatg gagctgcgta 420
acttctaatg atgggaattg gaaatggcca gtctctcagc aagacagagt aagttactct 480
tttgttaaca atcctaccag ttataatcaa tttaattatg gccatgggag atggaaagat 540
tggcaacagc gggtacaaaa agatgtacga aataagcaaa taagctgtca ttcgttagac 600

<210> 8
<211> 599
<212> DNA
<213> Sus sp.

<400> 8
atgcatccca cgttaagccg gcgccacctc ccgattcggg gtggaaagcc gaaaagactg 60
aaaatcccct taagcttcgc ctccatcgcg tggttcctta ctctgtcaat aactcctcaa 120
gttaatggta aacgccttgt ggacagcccg aactcccata aacccttatc tctcacctgg 180
ttacttactg actccggtac aggtattaat attaacagca ctcaagggga ggctcccttg 240
gggacctggt ggcctgaatt atatgtctgc cttcgatcag taatccctgg tctcaatgac 300
caggccacac cccccgatgt actccgtgct tacgggtttt acgtttgccc aggacccca 360
aataatgaag aatattgtgg aaatcctcag gatttctttt gcaagcaatg gagctgcgta 420
acttctaatg atgggaattg gaaatggcca gtctctcagc aagacagagt aagttactct 480
tttgttaaca atcctaccag ttataatcaa tttaattatg gccatgggag atggaaagat 540
tggcaacagc gggtacaaaa agatgtacga aataagcaaa taagctgtca ttcgttaga 599

<210> 9
<211> 599
<212> DNA
<213> Sus sp.

<400> 9
atgcatccca cgttaagccg gcgccacctc ccgattcggg gtggaaagcc gaaaagactg 60
aaaatcccct taagcttcgc ctccatcgcg tggttcctta ctctgtcaat aactcctcaa 120
gttaatggta aacgccttgt ggacagcccg aactcccata aacccttatc tctcacctgg 180
ttacttactg actccggtac aggtattaat attaacagca ctcaagggga ggctcccttg 240
gggacctggt ggcctgaatt atatgtctgc cttcgatcag taatccctgg cctcaatgac 300
caggccacac cccccgatgt actccgtgct tacgggtttt acgtttgccc aggacccca 360
aataatgaag aatattgtgg aaatcctcag gatttctttt gcaagcaatg gagctgcgta 420
acttctaatg atgggaattg gaaatggcca gtctctcagc aagacagagt aagttactct 480
tttgttaaca atcctaccag ttataatcaa tttaattatg gccatgggag atggaaagat 540
tggcaacagc gggtacaaaa agatgtacga aataagcaaa taagctgtca ttcgttaga 599

<210> 10
<211> 599
<212> DNA
<213> Sus sp.

<400> 10

4

```
atgcatccca cgttaagccg gcgccacctc ccgattcggg gtggaaagcc gaaaagactg 60
aaaatcccct taagcttcgc ctccatcgcg tggttcctta ctctgtcaat aactcctcaa 120
gttaatggta aacgccttgt ggacagcccg aactcccata aacccttatc tctcacctgg 180
ttacttactg actccggtac aggtattaat attaacagca ctcaagggga ggctcccttg 240
gggacctggt ggcctgaatt atatgtctgc cttcgatcag taatccctgg tctcaatgac 300
caggccacac ccccgatgt actccgtgct tacgggtttt acgtttgccc aggacccccca 360
aataatgaag aatattgtgg aaatcctcag gatttctttt gcaagcaatg gagctgcgta 420
acttctaatg atgggaattg gaaatggcca gtctctcagc aagacagagt aagttactct 480
tttgttaaca atcctaccag ttataatcaa tttaattatg gccatgggag atggaaagat 540
tggcaacagc gggtacaaaa agatgtacga ataagcaaa taagctgtca ttcgttaga 599
```

<400> 11
```
gacagcccga actcccataa accctcatct ctcacctggt tacttactga ctccggtaca 60
ggtattaata ttaacagcac tcaaggggag gctcccttgg ggacctggtg gcctgaatta 120
tatgtctgcc ttcgatcagt aatccctggt ctcaatgacc aggccacacc ccccgatgta 180
ctccgtgctt acgggtttta cgtttgccca ggacccccaa ataatgaaga atattgtgga 240
aatcctcagg atttcttttg caagcaatgg agctgcgtaa cttctaatga tgggaattgg 300
aaatggccag tctctcagca agacagagta agttactctt ttgttaacaa tcctacctat 360
aataatcaat ttaattatgg ccatgggaga tggaaagatt ggcaacagcg ggtacaaaaa 420
gatgtacgaa ataagcaaat aagctgtcat tcgttaga 458
```

<400> 12
```
ttaatggtaa acgccttgtg gacagcccga actcccataa acccttatct ctcacctggt 60
tacttactga ctccggtaca ggtattaata ttaacagcac tcaaggggag gctcccttgg 120
ggacctggtg gcctgaatta tatgtctgcc ttcgatcagt aatccctggt ctcaatgacc 180
aggccacacc ccccgatgta ctccgtgctt acgggtttta cgtttgccca ggacccccaa 240
ataatgaaga atattgtgga aatcctcagg atttcttttg caggcaatgg agctgcgtaa 300
cttctaatga tggaaattgg aaatggccag tctctcagca agacagagta agttactctt 360
ttgttaacaa tcctaccagt tataatcaat ttaattatgg ccatgggaga tggaaagatt 420
ggcaacagcg ggtacaaaaa gatgtacgaa ataagcaaat aagctgtcat tcgttaga 478
```

<400> 13

```
ttaatggtaa acgccttgtg gacagcccga actcccataa acccttatct ctcacctggt 60
tacttactga ctccggtaca ggtattaata ttaacagcac tcaaggggag gctcccttgg 120
ggacctggtg gcctgaatta tatgtctgcc ttcgatcagt aatccctggt ctcaatgacc 180
aggccacacc ccccgatgta ctccgtgctt acgggtttta cgtttgccca ggacccccaa 240
ataatgaaga atattgtgga aatcctcagg atttctttg caagcaatgg agctgcgtaa 300
cttctaatga tgggaattgg aaatggccag tctctcagca agacagagta agttactctt 360
ttgttaacaa tcctaccagt tataatcaat ttaattatgg ccatgggaga tggaaagatt 420
ggcaacagcg ggtacaaaaa gatgtacgaa ataagcaaat aagctgtcat tcgttaga    478
```

<210> 14
<211> 458
<212> DNA
<213> Sus sp.

<400> 14

```
gacagcccga actcccataa acccttatct ctcacctggt tacttactga ctccggtaca 60
ggtattaata ttaacagcac tcaaggggag gctcccttgg ggacctggtg gcctgaatta 120
tatgtctgcc ttcgatcagt aatccctggt ctcaatgacc aggccacacc ccccgatgta 180
ctccgtgctt acgggtttta cgtttgccca ggacccccaa ataatgaaga atattgtgga 240
aatcctcagg atttcttttg caagcaatgg agctgcgtaa cttctaatga tgggaattgg 300
aaatggccag tctctcagca agacagagta agttactctt ttgttaacaa tcctaccagt 360
tataatcaat ttaattatgg ccatgggaga tggaaagatt ggcaacagcg ggtacaaaaa 420
gatgtacgaa ataagcaaat aagctgtcat tcgttaga                          458
```

<210> 15
<211> 478
<212> DNA
<213> Sus sp.

<400> 15

```
ttaatggtaa acgccttgtg gacagcccga actcccataa acccttatct ctcacctggt 60
tacttactga ctccggtaca ggtattaata ttaacagcac tcaagaggag gctcccttgg 120
ggacctggtg gcctgaatta tatgtctgcc ttcgatcagt aatccctggt ctcaatgacc 180
aggccacacc ccccgatgta ctccgtgctt acgggtttta cgtttgccca ggacccccaa 240
ataatgaaga atattgtgga aatcctcagg atttctttg caagcaatgg agctgcgtaa 300
cttctaatga tgggaattgg aaatggccag tctctcagca agacagagta agttactctt 360
ttgttaacaa tcctaccagt tataatcaat ttaattatgg ccatgggaga tggaaagatt 420
ggcaacagcg ggtacaaaaa gatgtacgaa ataagcaaat aagctgtcat tcgttaga    478
```

<210> 16
<211> 478
<212> DNA
<213> Sus sp.

6

<400> 16
ttaatggtat gcgccttgtg gactgcccga actcccataa acccttatct ctcacctggt 60
tacttactga ctccggtaca ggtattaata ttaacatcac tcaaggggag gctcccttgg 120
ggacctggtg gcctgaatta tatgtctgcc ttcgatcagt aatccctggt ctcaatgacc 180
aggccacacc ccccgatgta ctccgtgctt acgggtttta cgtttgccca ggacccccaa 240
ataatgaaga atattgtgga aatcctcagg atttcttttg caagcaatgg agctgcgtaa 300
cttctaatga tgggaattgg aaatggccag tctctcagca agacagagta agttactctt 360
ttgttaacaa tcctaccagt tataatcaat ttaattatgg ccatgggaga tggaaagatt 420
ggcaacagcg ggtacaaaaa gatgtacgaa ataagcaaat aagctgtcat tcgttaga   478

<210> 17
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 17
gtgtgttctg gatctgttgg tttc   24

<210> 18
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 18
ccacgcaggg gtagaggact   20

<210> 19
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 19

ctaggaggat cacaggctgc   20

<210> 20
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 20
cctggtggtc tcctactgtc g   21

<210> 21
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 21
gtgtgtctgg atctgttggt ttc   23

<210> 22
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 22
tgcctgcttg tggaagacg   19

<210> 23
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

8

<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 23
gcttttatgg ggttcacaac aaa   23

<210> 24
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 24
ccacgcaggg gtagaggact   20

<210> 25
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 25
cctaccagtt ataatcaatt taattatggc   30

<210> 26
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 26
aggttgtatt gtaatcagag ggg   23

<210> 27
<211> 27

```
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 27
cgtggttcct tactctgtca ataactc                                    27


<210> 28
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 28
ctaatgatgg gaattggaaa tgg                                        23


<210> 29
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 29
gctyaccctt actgaggttt ctgg                                       24


<210> 30
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 30
ggacttagta acctacatcg aattgtaac                                  29
```

10

```
<210> 31
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 31
ccaacaagaa gaggtagcct ctg                                        23


<210> 32
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 32
ggatcttccg ttacaattcg atgtag                                     26


<210> 33
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
      sequence used in amplification of PERV-sequences.

<400> 33
tctcgtactt tttgaccaca ccaacg                                     26
```